

BS151/66

D I R E C T I O N S  
F O R  
R A I S I N G F L A X:

Originally PUBLISHED by Order of  
The COMMISSIONERS and TRUSTEES  
F O R  
*Fisheries, Manufactures, and Improvements,*  
I N S C O T L A N D;

And now RE-PRINTED by Order of the  
*Lords Commissioners for Trade and Plantations,*  
For the Benefit and Instruction of  
Those FARMERS who may cultivate FLAX,

A N D  
Become Intitled to the Bounties granted on that Article,  
By a Late ACT of PARLIAMENT.

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L O N D O N: M D C C L X X X I.

Copies hereof are distributed GRATIS, at the PLANTATION  
OFFICE, WHITEHALL, and by the Clerks of the  
Peace in the several Counties of  
ENGLAND and WALES.



**T**HE great Improvement in the Culture of HEMP and FLAX, especially the latter, in SCOTLAND, having been greatly owing to the general Distribution of the following Directions in that Kingdom :—The LORDS COMMISSIONERS for TRADE and PLANTATIONS, hoping the like good Consequences will attend their being known to the Farmers in ENGLAND and WALES, have directed them to be Re-printed, and distributed for their Benefit and Instruction.

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D I R E C T I O N S  
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*Choice of SOIL, and PREPARING the  
GROUND for Flax.*

A Skilful flax-raiser always prefers a free open deep loam, and grounds that produced the preceding year a good crop of turnip, cabbage, potatoes, barley, or broad clover; or has been formerly laid down rich, and kept for some years in pasture.

A clay-soil, the second or third crop after being limed, will answer well for flax, as well as soils of a lighter quality; provided it be brought to a proper mould, by tilling after harvest, to expose it to the winter-frosts; and by repeated ploughings in the spring, to make the ground fine. A little old stable-dung, or that of pigeons, or sheep, or ashes, may be spread upon the ground immediately before sowing.

Ground enriched with shell or other marls, will answer well for flax, if the marl has been mixed with the soil for some time.



In dry soils, the broader and more level the ridges are laid, so much the better ; as by that means, the natural moisture will be longer retained, and the crop rendered more equal and uniform ; which uniformity is of great advantage to crops of flax.

All new grounds, or such as have lain long in grass or pasture, produce clean crops of strong flax ; but ought to be ploughed as shallow, and the furrow laid as flat as possible.

Flax-seed ought never to be sown on grounds that are either too wet or dry ; but on such as retain a natural moisture ; and such grounds as are inclined to weeds ought to be avoided, unless prepared by a careful summer-fallow, or by crops of turnip, cabbage, or potatoes.

Before sowing, the bulky clods should be broken, or carried off the ground ; and stones, quickens, and every other thing that may hinder the growth of the flax, should be removed.

*Choice of LINTSEED.*

**T**HE brighter in colour, and heavier the seed is, so much the better ; that which appears, when bruised, of a light or yellowish green, and fresh in the heart, oily, and smells and tastes sweet, may be depended upon.

*Dutch*





*Dutch* seed of the preceding year's growth, for the most part, answers best; but it seldom succeeds if kept another year. It ripens sooner than any other foreign seed. *Philadelphia* seed produces fine lint and few bolls, and answers well in wet cold soils. *Riga* seed produces coarser lint, and the greatest quantity of seed the first year; but the second crop from *Riga* produces less seed and better flax. Good *Scotch* seed, when well winned and kept, and changed from one kind of soil to another, will be found little inferior to the best foreign seed.

A kind is sometimes imported from *Memel*, which looks well, is short and plump, but seldom grows above eight inches high, and on that account ought not to be sown. It is probably the kind discharged by act of parliament, under the denomination of *short lintseed*.

#### Of SOWING *Lintseed*.

THE quantity of lintseed sown, should be proportioned to the condition of the soil; for if the ground be in good heart, and the seed sown thick, the crop will be in danger of falling before it is ready for pulling. From twelve and half to fourteen and half pecks of *Dutch* or *Riga* seed, is generally sufficient for one acre; and about  
twelve

twelve pecks of *Philadelphia* seed, which being the smallest grained, goes farthest.

The time for sowing lintseed is from the middle of *March* to the end of *April*, as the ground and season answers.

It ought always to be sown on a dry bed. And if the soil be light, it should be rolled after harrowing; especially if grass-seeds are sown along with it.

#### *Of WEEDING Flax.*

**I**T ought to be weeded when the crop is about four inches long. If longer deferred, the weeders will so much break and crook the stalks, that they will never perhaps recover their straightness again; and when the flax grows crooked, it is more liable to be hurt in the rippling and swingling.

Quickens should not be pulled in weeding; for, being strongly rooted, the pulling would lay open, and endanger the roots of the lint.

If there is an appearance of a settled drought, it is better to defer the weeding, than by that operation to expose the tender roots of the flax to the drought.

How soon the weeds are pulled, they ought to be carried off the field, and not laid in the furrows; where they often take  
root

root again, and at any rate obstruct the growth of the flax in these parts.

As young and unskilful persons frequently pull up and spoil the flax, they ought to be mixed with those of more experience—And all ought to take care not to destroy the flax with their shoes, or by resting too much upon their elbows, when employed in this business.

### *Of PULLING Flax.*

**I**F it is intended to save both the flax and the seed, the pulling should not begin till the stalk becomes yellow, almost all the leaves fallen, and the bolls turned so sharp, that they will stick to the finger when pressed upon their points ; also when one of the lower bolls cut across the grain with a penknife, appears full of seed, well formed, and firm. But if the stalk is small, with few bolls upon it, which is a sign that the flax is fine, it ought to be pulled when the stalk first begins to grow yellow, when only the undermost leaves fall, before the bloom is quite over, before the bolls turn sharp pointed, and when one of the bolls cut across the seed appears soft and watery. It is a rule with persons of skill to follow this last method, when they think that about eight hanks or more may be spun from the English pound. When



When flax has fallen, such as lies ought to be immediately pulled, otherwise it will rot ; and that being pulled, the rest of the crop will receive the more air, and be the less apt to fall.

When parts of the same field grow unequally, so that some parts are ready for pulling before others, what is fit should be pulled, and the rest suffered to stand till ready.

The flax-raiser ought to be at great pains to pull; and keep by itself, each different kind of lint ; what is long and fine, by itself ; what is long and coarse, by itself ; what is both short and fine, by itself ; what is both short and coarse, by itself ; and, in like manner, every other kind by itself : for if the different kinds are not thus kept separate, the flax will be much damaged in the watering, and the other succeeding operations.

While pulling and sorting the flax, the weeds ought to be picked out ; otherwise they will hurt the flax in the operations of watering and dressing ; and what is commonly called under-growth, may be thrown away as useless.

Few persons that have seen flax pulled, are ignorant of the method of laying it in handfuls across each other, upon bands composed with some of the stalks. Laying  
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the handfals in this way admits sufficient air, and keeps them separate and ready for the rippler.

*Management of the Crop after PULLING,  
and before RIPPLING.*

**I**F the flax is not of the finest kind, the cross-handfals, after lying twenty-four hours as above described, should be turned upon the band; and then, after lying other twenty-four hours, should be bound up in sheaves, and stooked like corn, but not covered with head-sheaves. If the weather is dry, in about a fortnight's time the seed will be sufficiently won for rippling, and may then be removed to the barn. But if the flax is fine, in about twelve hours after it is pulled, it should be put up into stooks; and if the weather continues dry, in two or three days more it may be rippled.

Keeping the flax unwatered till next spring is attended with many bad consequences. For when too much dried, by long keeping, it is not so easily nor so safely watered; the quality of the flax becomes thereby harsher and coarser; it is subject to danger from vermin, and other accidents, during the winter; the water in spring, or beginning of summer, is not so soft and warm as in harvest; and near a  
B year,

year, by that practice, is lost of the use of the lint.

### *Of RIPPLING Flax.*

**T**HE seed ought by all means to be separated from the flax before watering; for if put into the water along with the flax, it is apt to breed vermin, and discolour it: besides, even the weakest seed and the husks make an excellent feed for horse and cattle; in particular, they are found to give a fine coat or skin to horses.

When the seed is to be won for sowing, it should be rippled within doors; for rain and damp will discolour, and render it unfit for sowing.

The handfuls for rippling should not be great, as that endangers the lint in going through the comb.

After rippling, the flax-raiser will perceive, that he is able to assort each size and quality of the flax more exactly than he could do before.

### *Of WINNING the Seed.*

**T**HE bolls, after rippling, should be sifted through a wide riddle, to free them from the wreck of the flax: and if this riddling be done before the wind, to separate the bolls and seed from dust, so much



much the better. Then the bolls should be carried to a sheeling-mill: but if there is no such mill in the neighbourhood, the seed must be threshed out with flails. After this operation, the whole should pass thro' fanners, and different sieves, to clean the seed as much as possible from broken husks, dust, weak seed, &c. Being thus cleaned, it should be carried to a free-aired loft, and spread thin, and often turned for some time, to prevent it from heating: and as the seed dries, it may be laid up thicker together, and seldomer turned, till at last it is fit for the market, or sowing.

*Management of the Flax after RIPPLING,  
and before WATERING.*

**R**ushes should be pulled and dried during the summer for tying the handfuls of flax for the water. They save flax, and answer well for this purpose; as they do not easily rot in the water, and may be dried again, and kept for next year's use. The flax from the rippling-comb being properly sorted, as beforementioned, should be put up in small beets, never larger than a man can easily grasp with both hands, and tied slack with a band of rushes. The flax that has stood long in the field will be bent or crooked; and therefore with

one's hands and knees, must be carefully straighted, and laid equal together in a mow, in a shade or barn. The mow ought to be raised regularly one row above another, until it rises to the lofting, or is pressed down with logs or boards, and a sufficient weight above them. In this way it should remain from twelve to twenty-four hours, according as the flax is dry. This compressing, and laying of the flax together, also mellows and prepares it the better for the watering.

#### *Of WATERING Flax.*

**A** Running stream wastes the lint, makes it white, and frequently carries it away. Lakes, by the great quantity and motion of the water, also waste and whiten the flax, though not so much as running-streams. Both rivers and lakes water the flax quicker than canals.

But all flax ought to be watered in canals; which should be digged in clay-ground if possible, as that soil retains the water best: but if a firm retentive soil cannot be got, the bottom or sides of the canal, or both the bottom and sides, may be lined with clay; or, instead of lining the sides with clay, which might fall down, a ditch may be dug on each side of the canal, and filled with

with clay, which will prevent both extraneous water from entering, and the water within from running off.

A canal of about sixty feet long, seven feet broad, and two feet and a half deep, will generally water the growth of an acre of flax. If the canal is deeper, the water near the bottom will be too cold, and consequently the flax will not be so soon nor so equally watered.—But if the ground is loose, and subject to lose water, then the canal may be filled to the deepness of three feet, but deeper is not adviseable.

It ought to be filled with fresh soft water from a river or brook, if possible, two or three weeks before the flax is put in, and exposed all that time to the heat of the sun. The greater way the river or brook has run, the softer, and therefore the better will the water be. Springs, or short runs from hills, are too cold, unless the water is allowed to stand long in the canal. Water from coal or iron, is very bad for flax. A little of the powder of galls thrown into a glass of water, will immediately discover if it comes from iron, by turning it into a dark colour, more or less tinged in proportion to the quantity it contains of that mineral.

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The canal ought not to be under any shade; which, besides keeping the sun from softening the water, will make part of the canal cooler than other parts, and by that means water the flax unequally.

The flax-raiser will observe, that when the water is brought to a proper heat, small plants will be rising quickly in it, numbers of small insects and reptiles will be generating there, and bubbles of air rising on the surface. If no such signs appear, the water must not be warm enough, or is otherwise unfit for flax.

Moss-holes, when not much deeper than before described, answer well for watering flax.

The sooner flax is watered in the same season in which it is pulled, the better; and none should be put into the water after the middle of September.

The beets of flax before described should be laid into the canal in rows across the canal; the first row of beets with their crop-ends leaning upon the end of the canal, about a foot above the bottom, and the root-ends sloping downwards; the crop-ends of the second row over-lapping the band of the first row; and so on till the canal be filled. Vermin are fondest of the tender crop-end; which, one might think should for that reason

reason be put down-moſt ; but as that end requires the warmeſt water, therefore, upon the whole, it is thought moſt adviſeable to keep it uppermoſt.

The whole flax in the canal ought to be carefully covered from the ſun, and kept under water with a weight of fods ; the graſſy ſide next the flax, to keep it clean. If the flax is not covered, although it be under the water, the ſun will diſcolour it. But it ought by no means to be ſo much preſſed down, as to prevent the water from penetrating freely through every part of it. When fods cannot eaſily be got, ruſhes, ſedges, ſearns, reſuſe of flax, or any weeds that will not diſcolour the lint, may be laid immediately above the flax ; and the whole preſſed down by ſlime, ſtones, or any other weighty body.

When the flax is ſufficiently watered, it feels ſoft to the grip, and the harle parts eaſily with the boon or ſhow, which laſt is then become brittle, and looks whitish. Take ſome beets out of different parts of the canal ; and out of the heart of theſe beets take a few of the ſmalleſt ſtalks. Break theſe ſtalks in different parts, about four inches diſtant ; and if the boon break freely, and can be drawn eaſily from the flax, without any of the harle adhering to it,

it, then it may be depended upon that the stalk is sufficiently watered. When these signs are found, the flax should be taken out of the canal, beet after beet, and each gently rinsed in the water, to cleanse it of the nastiness which has gathered about it : and as the lint is then very tender, and the beet slackly tied, it must be carefully and gently handled.

Great care ought to be taken that no part is overdone ; and as the coarsest is soonest watered, if different kinds be mixed together, a part will be rotted when the rest is not sufficiently watered.

When lint taken out of the canal is found not sufficiently watered, it may be laid in a heap, for twelve, eighteen, or twenty-four hours, which will have the same effect with more watering ; but this operation is nice, and may prove dangerous in unskilful hands.

After the flax is taken out of the canal, fresh lint should not be put a second time into it, until the former water is run off, and the canal cleaned, and supplied with fresh water ; it being found by experience, that the insects bred during the first watering will destroy the second filling, if the canal be not emptied, cleaned, and again filled with fresh water.

Of



*Of DRYING the Flax after watering.*

**I**N this variable climate, the spreading of flax upon the ground, as formerly practised, after watering, is now disapproved of; as losing a great deal of time, exposing it to great danger from high winds, and rotting by rains, and the grass growing through it. After grasing in the common method, parts of the crop are always found very differently prepared, and of different colours, because it is impossible to have it all equally exposed to the sun and weather, without frequent turning; which in this country is a difficult and expensive operation, and has been found very hazardous, on account of high winds.

When the flax is taken out of the water, the beets are to be laid upon the side of the canal to drain; and at this time the flax being very tender, it must be gently handled. When stiff enough to bear standing upon end, the beets are to be lifted, the bands drawn up near the crop-end, and each beet set upon its root-end, spread open to the wind, as is the practice with wet sheaves of corn. Women, boys, and girls, should be close employed to spread open the beets, and expose the whole as much as possible to the sun and wind, until the flax be thoroughly dry.

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If rain should fall while the beets are lying in heaps upon the side of the canal to drain, it will be in danger of heating; to prevent which they must be laid afunder, to give them the more air, until dry weather happens

UPON observation, that part of both the root and crop-ends of the flax is always torn off in the operations of breaking, swingling, and heckling; that the root of the plant, in particular, contains no flax, but is a hard, brittle, woody substance, strongly connected with the harle above it; and that these parts, so torn off, frequently take with them part of the good flax; EXPERIMENTS have been made on some parcels of flax before, and other parcels after watering, of cutting off so much of both these ends as has been judged useless; and it appeared, that by this method, when done with judgment, there was actually more produce from the scutch, and still more from the heckle, and that of better quality; and it was dressed both easier and sooner. It was also found, that by thus cutting off the upmost bolls, which contained the best seed, with the branchy part along with them, the seed was won with less risk of heating, and the green flax was less hurt, than by rippling. *The*

*The FRENCH FLANDERS METHOD  
of raising FINE FLAX for Cambrick,  
Lawn, Lace, and Thread,—as published  
by Mess. Corbeaux, Cambrick-manufacturers  
from St. Quintin, now settled by the Board  
of Trustees at Glasgow.*

**T**HE ground must be a rich light soil, rather sandy, but cannot well be too rich.—It ought to be ploughed in September, or the beginning of October, first putting a little hot rotten dung upon it.

Second ploughing in January after a hard frost; and when you intend to sow it, plough it a third time, or rather hoe it, reducing the clods very fine; but make no furrows: the land must be made level like a garden: never work the land when wet.

The seed should be sown the beginning of April, and about double the quantity that is generally sown by farmers; if the land be very rich, it will require rather more than double.

As soon as sown (if the weather be dry) it will be necessary to roll the ground.

The lint must be weeded very clean when about three inches high; directly after which, you must set forked sticks, of about one and a half inch thick (which ought to be prepared before) at the distance of



every four or five feet, according to the length of the poles you are to lay upon them: they should be well fixed in the ground, the forked part to receive the poles about six or seven inches above the lint; each row of poles should be two, three, or four feet asunder, according to the length of the brushwood you are to lay upon them.

The poles ought to be from ten to fifteen feet long, and strong enough to support the brush across the poles. Take the longest brushwood you can get, the more branchy the better, very thick, filling up the vacancies with smaller brush; and any of the branches that rise higher than eighteen or twenty inches, ought to be lopt off, to make the brush lie as level as possible. Any sort of brush will do except oak, as that tinges the lint.

Your lint must be pulled as soon as the seed is fully formed; which is a few days after it is out of the bloom, before the lint turn yellow.

It must be pulled above the brushwood, and every handful laid upon it as even as possible: if it is fine weather, leave it four or five hours in that manner, then carry it to a screen near a barn, to put it under cover in case of rain; there it must be spread four or five days, and always put in  
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the barn at night, or when it appears to rain ; the bundles must be opened in the barn, or made hollow, to prevent it from heating.

These operations must be performed until the lint is perfectly dry, and out of danger of heating ; taking care all the time to keep the roots as even as possible ; and, if possible, keep it from rain or wet. If you cannot prevent it from being wet, it will be better to leave it on the grass till dry ; because, when once wet, the putting it under cover before dry will make it turn black ; a thing which must be prevented at all events.

If any of the lint upon the border, or through the piece of ground, be coarser than another, it must be separated from the rest.

The utmost care must be taken to preserve the lint entire, or unbroke ; for this reason, they beat off the seed with a round melle or beetle.

The most proper ground is summer-fallow, or after potatoes, or ley ; if possible near a wood, to prevent the expence of carrying brush.

As soon as the seed is off, if you intend to water it that season, it must be tied in bundles, about as large as you can grasp with your two hands.

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The water proper for it, is a very small rivulet, or soft spring, free of any metallic ore, and taking care that no flood or foul water enters your pit ; which must be at least five feet deep, about nine or ten broad at the top, and seven or eight at the bottom ; the length will depend on the quantity of flax you have to water. A very small stripe of water, when clear, should always be running in and off from your pit when the lint is in it.

The pit ought to be made three or four months before it be used.

You must drive poles, about four inches thick, with a hook inclining downwards, in this form 7, all along the sides of the pit, about five feet asunder. The hooks must be level, or rather under the surface of the water. A long pole, the whole length of the pit, must be fixed into these hooks on each side, and cross poles put under that, to keep the lint under water ; but the cross poles are not used 'till the lint is put in. You must order it so, that all the lint should be three or four inches under water. You next bring your lint to the sides of the pit ; then put your sheaves head to head, causing each overlap the other about one third, and take as many of these as make a bundle of two, or two and a half feet



feet broad, laying the one above the other, 'till it be about four or four and a half feet high ; then you tie them together in the middle, and at each root-end : after this, you wrap your bundle in straw, and lay it in the water, putting the thin or broad side undermost ; taking care that none of your lint touch the earth : after it is fully pressed under water, put in your cross poles to keep it under. The bundles ought to lie in the pit a foot separate from each other. This renders it easy to take out ; for if the bundles entangle, they will be too heavy to raise.

The time of watering depends so much upon the weather, and softness or hardness of the water, that it is impossible to fix any certain time. This must be left to the skill of the farmer. If the flax be intended for spinning yarn soft, and fit for cambrick, it ought to be spread upon short grafs for four or five days before you put it into the water ; but if for lawns, lace, or thread, it is best to dry it outright. In either case, avoid as much as possible to let it get rain ; as much rain blanches and washes out the oil, which is necessary to preserve the strength.

The great property of this flax is to be fine and long. Thick sowing raises all plants fine and slender ; and when the  
ground

ground is very rich, it forces them to a great length. Pulling green prevents that coarse hardness which flax has when let stand 'till it be full ripe, and gives it the fine silky property. The brush wood, when the flax springs up, catches it by the middle, prevents it from lying down and rotting; infallible consequences of sowing thick upon rich ground. It likewise keeps it straight, moist, and soft at the roots; and by keeping it warm, and shaded from the sun, greatly promotes its length. The keeping it from rain and heating, and taking proper care of your water, preserves the colour, and prevents those bars in cloth, so much complained of by bleachers.

This finest kind of flax is not dressed as common flax. It is spread upon the barn floor, and beat with a heavy mallet. Then it receives a rough scutching with the stock and hand scutcher. Next it is scraped and cleaned with a blunt knife, upon the workman's knee, covered with his leather-apron; From the knife it proceeds to the spinner; who, with a brush made for the purpose, straights and dresses each parcel, just before she begins to spin it.

F I N I S.



